

WHAT IS CLAIMED IS:

1 1. A method for removing from a tooth of a dental
2 patient a dental restoration of a material which in ambient
3 light is not readily distinguishable from natural tooth
4 structure, said method comprising the steps of:
5 - applying ultraviolet light to the restorative material and
6 thereby creating a visible contrast between the restorative
7 material and the natural tooth structure, and
8 - removing the restorative material by conventional means
9 while observing the tooth and restorative material in the
10 presence of the ultraviolet light.

1 2. The method of claim 1, wherein the dental
2 restoration comprises a filling and the restorative material
3 comprises a composite filling material.

1 3. The method of claim 1, wherein the dental
2 restoration comprises one of a resin-cemented crown, a resin-
3 cemented inlay, a resin-cemented veneer, and a resin-cemented
4 bracket, and wherein the restorative material comprises a
5 bonding cement.

1 4. The method of claim 1, wherein the ultraviolet
2 light is applied in combination with visible light.

1 5. The method of claim 4, wherein said combination
2 comprises continuous ultraviolet light applied simultaneously
3 with continuous visible light.

1 6. The method of claim 4, wherein said combination
2 comprises pulsating ultraviolet light applied simultaneously
3 with continuous visible light.

1 7. The method of claim 4, wherein said combination
2 comprises continuous ultraviolet light applied simultaneously
3 with pulsating visible light.

1 8. The method of claim 4, wherein said combination
2 comprises alternating pulses of ultraviolet light and visible
3 light.

1 9. The method of claim 4, further comprising the step
2 of controlling at least one characteristic parameter of at
3 least one of the ultraviolet light and the visible light in
4 order to optimize said visible contrast.

1 10. The method of claim 9, wherein the at least one
2 characteristic parameter belongs to the group consisting of
3 intensity, wavelength, pulse length, and pulse frequency.

1 11. The method of claim 9, wherein the step of
2 controlling is performed by actuating a user interface from
3 the group consisting of hand-operated controls, foot-operated
4 controls, and voice-actuated controls.

1 12. An apparatus for creating a visible contrast
2 between natural tooth structure and a restorative material,
3 comprising an illumination system with a control module, a
4 light source and a light-projecting device that projects light
5 on a tooth being treated, wherein said light comprises at
6 least an ultraviolet component.

1 13. The apparatus of claim 12, wherein said light
2 comprises ultraviolet light in combination with visible light.

1 14. The apparatus of claim 13, wherein said
2 combination comprises at least one of:
3 - continuous ultraviolet light combined with continuous

- 4 visible light,
- 5 - pulsating ultraviolet light combined with continuous
- 6 visible light,
- 7 - pulsating visible light combined with continuous
- 8 ultraviolet light, and
- 9 - alternating pulses of visible and ultraviolet light.

1 15. The apparatus of claim 12, wherein the light-
2 projecting device is part of a dental handpiece.

1 16. The apparatus of claim 12, wherein the light-
2 projecting device is part of a headset.

1 17. The apparatus of claim 12, wherein the light
2 source is arranged in the control module and the light is
3 transmitted from the light source to the light-projecting
4 device through a flexible light conduit.

1 18. The apparatus of claim 12, wherein the light
2 source is arranged in the light-projecting device, and the
3 light source is powered from the control module through an
4 electrical cable.

1 19. The apparatus of claim 12, wherein the light
2 source comprises at least one light-emitting diode.

1 20. The apparatus of claim 19, wherein the at least
2 one light-emitting diode emits ultraviolet light.

1 21. The apparatus of claim 12, wherein the control
2 module has a user interface from the group that consists of a
3 manually operated control, a foot-operated control, and a
4 voice control.

1 22. The apparatus of claim 21, wherein the user
2 interface is operative to control at least one characteristic
3 parameter of the light selected from the group of parameters
4 consisting of intensity, wavelength, pulse length, and pulse
5 frequency.

1 23. The apparatus of claim 15, wherein the
2 illumination system comprises in combination with the light-
3 projecting device in the handpiece a further light-projecting
4 device that is part of a headset.